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EXAMINER

PATEL, DHAIRYA A

ART UNIT PAPER NUMBER

2151

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/995,057

Applicant(s)

RICE ET AL.

Examiner

Dhairya A. Patel

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is responsive to communication filed on 05/26/2005. Claims 1-22 are presented for examination.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feinberg et al. (hereinafter Feinberg) U.S. Patent # 6,798,745 in view of Dziekan et al. U.S. Patent 6,704,288 (hereinafter Dziekan).

As per claim 1, Feinberg teaches a system for use with a broadband network, the system comprising:

-information means for obtaining information relating to network performance (column 1 lines 55-65); and

-parameter means, coupled to the information means, for parameterizing the network performance information, with parameters providing information about network performance over time (column 5 lines 28-60)

The reference teaches QoS events (network performance over time) with parameters providing information.

Feinberg is silent on teaching said information about network performance including a cable-modem hour metric. Dziekan teaches information about network

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performance including a cable-modem hour metric (column 4 lines 37-45, lines 48-51)(column 5 lines 39-58). The reference teaches monitoring the network performance by requesting the diagnostic tests on the network element including cable-modem and receiving information on how much the throughput is on the cable modem (cable modem hour metric) and also receiving information on BER rates, carrier-to-noise ratios or high frame error rates (cable-modem hour metric). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's invention in Dziekan's invention to come up with information about network performance including cable-modem hour metric. The motivation for doing so would have been so to know how much the throughput is on the cable modem so if there is a low cable modem throughput, one can request a diagnostic tests through the diagnosis element.

As per claim 2, Feinberg and Dziekan teach the system of claim 1, but Feinberg further teaches wherein the parameters provide information about network performance in levels of network performance degradation. (Column 5 lines 17-27)

The reference teaches the network performance in which values are indicative of degradation in network performance (levels of network performance degradation)

As per claim 3, Feinberg and Dziekan teach the system of claim 2, but Feinberg further teaches wherein the parameter means is configured to manipulate the network performance information into metrics related to network performance, and to determine the level of network performance degradation associated with each metric by comparing

the metrics to thresholds associated with the levels of network performance degradation. (Column 5 lines 31-60)

The reference teaches that QoS events is packet loss, packets received, network delay, jitter etc. (metrics) which is related to network performance and comparing if the QoS acceptance value (range or threshold) associated with the QoS parameter value (network performance degradation)

As per claim 4, Feinberg and Dziekan teach the system of claim 3, but Feinberg further teaches wherein the information means obtains substantially real-time raw network data and the parameter means manipulates the raw data and compares the manipulated raw data with thresholds that are dependent upon at least one of network performance, network configuration, computer models related to the network, and empirical evidence related to the network. (column 5 lines 23-27, lines 31-60)

The reference teaches the number of packets received out of sequence, number of packets lost, etc. (real time raw network data) and compares it with the QoS acceptable limits (threshold values) which are dependent on network performance.

As per claim 5, Feinberg and Dziekan teach the system of claim 4, but Feinberg further teaches wherein the information means is configured to manipulate the raw data by normalizing the raw data. (column 5 lines 40-60).

The reference collecting the raw data using it to compute if it within the limits of QoS acceptable range or threshold (normalizing).

As per claim 6, Feinberg and Dziekan teach the system of claim 4, but Feinberg further teaches wherein the parameter means is distributed within the network (column 2 lines 47-60)(column 3 lines 12-18).

As per claim 7, Feinberg and Dziekan teach the system of claim 2, but Feinberg further teaches wherein each parameter is indicative of a length of time that the corresponding metric has been at a designated level of network degradation (column 5 lines 19-26)(column 6 lines 25-56)

As per claim 8, Feinberg and Dziekan teach the system of claim 7, but Feinberg further teaches wherein each parameter indicates an amount of hours that the corresponding metric has been at the designated level of network performance degradation within a selected amount of time. (Column 6 lines 37-56)

As per claim 9, Fienberg and Dziekan teaches the system of claim 8 but Feinberg is silent on teaching the network is a DOCSIS network including cable modems and cable modem termination systems, and the parameters indicate numbers of cable-modem hours at the designated levels of network degradation. Dziekan teaches the network is a DOCSIS network including cable modems and cable modem termination systems, and the parameters indicate numbers of cable-modem hours at the designated levels of network degradation. (Column 1 lines 31-53)(column 5 lines 38-59)(column 4 lines 37-45,lines 48-51). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's invention in Dziekan's invention to come up with DOCSIS network which cable modems and cable modem termination system to indicate number of cable modem hours. The motivation

for doing so would have been to know the speed of transmission at the time of degradation or how much the degradation is lowering by.

As per claim 10, Feinberg and Dziekan teach the system of claim 2, but Feinberg further teaches wherein the levels include degraded and severely degraded. (Column 5 lines 15-29) (Column 6 lines 37-56)

As per claim 11, Feinberg and Dziekan teaches the system of claim 1, but Feinberg further teaches further comprising a combiner coupled to the parameter means and configured to combine the parameters according to a topology of the network, and according to which portions of the topology are selected for evaluation (column 6 lines 16-36)

The reference teaches the when QoS parameter value for the connected network call (network) exceeds the packet network QoS threshold value (parameter) removing the fraction of the voice generated load when the packet loss was detected (combining parameters according to the network)

As per claim 12, Feinberg and Dziekan teaches the system of claim 1, but Feinberg further teaches further comprising a combiner coupled to the parameter means and configured to combine the parameters according to a time period selected for evaluation. (Column 5 lines 45-49)(Column 6 lines 16-36)

The reference teaches combining the parameters at the time period selected for evaluation in regards that parameter value was calculated was in a certain period and the monitoring was processing during a certain period therefore when the combining of

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the parameter for evaluation occurred during the time period as show in the expression of packet loss in function of time (column 6 lines 37-56)

As per claim 13, Feinberg and Dziekan teaches the system of claim 1, but Feinberg further teaches further comprising presentation means coupled to the parameter means and configured to present information of the parameters over time (column 6 lines 37-56).

The reference teaches the expression which will shows the present information of the parameters over time when calculated using the expression.

As per claim 14, Feinberg and Dziekan teaches the system of claim 1, but Feinberg further teaches wherein the parameter means is configured to parameterize the network performance information based upon at least one of a topology of at least a portion of the network, and a time period for evaluation (column 5 lines 28-60)

The reference teaches getting QoS performance parameter data (network performance information) based on the VoP gateway 106 to Gateway 116 (at least one of a topology of at least a portion of the network) and getting parameter value using the number of lost packets in one-second period (time period evaluation).

As per claim 15, Feinberg teaches a computer program product comprising computer-executable instructions for causing a computer to:

-accumulate data relating to performance of broadband network elements (column 5 lines 26-39); and



The reference teaches collecting QoS events, which are packet loss; packets received out of sequence, network delay, jitter, or other performance data of the network elements.

-reduce the accumulated data relating to performance of multiple broadband network elements to a single value characterizing an aggregate amount of time that the network elements were at a corresponding quality of network performance during a designated time frame (column 5 lines 40-60).

The reference teaches the QoS events (accumulated data) are reduced to QoS parameter value (single value) by summing the packets lost in one-second period (aggregate amount of time), which is also during a designated time frame of quality of network performance.

Feinberg fails to teach single value including a cable-modem hour metric. Dziekan teaches reducing the accumulated data relating to performance of multiple broadband network elements to said single value including a cable-modem hour metric (column 5 lines 35-58)(column 6 lines 53-67). The reference teaches having BER rates, carrier-to-noise ratios or high frame error rates (cable-modem hour metric). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's invention in Dziekan's invention to come up with single value including cable-modem hour metric. The motivation for doing so would have been so that if the single value is below a certain threshold or above certain threshold, it would be easier to know the status of the network (for example if there is low throughput or network degradation).

As per claim 16, Feinberg and Dziekan teaches the computer program product of claim 15 but Feinberg further teaches further comprising instructions for causing the computer to reduce the accumulated data relating to performance of multiple broadband network elements to another single value characterizing another aggregate amount of time that the network elements were at another corresponding quality of network performance during the designated time frame (column 5 lines 27-60)

The reference teaches the QoS events (accumulated data) are reduced to QoS parameter value (single value) by summing the packets lost in one-second period (aggregate amount of time), which is also during a designated time frame of quality of network performance. The reference teaches that QoS acceptance value represents the acceptable limits (range or threshold) associated with the specified QoS parameter value which states each parameter value is going to be different each time because parameter value is determined with data is accumulated in a specified time interval therefore for another QoS parameter (single value) will be different depending on another QoS events (accumulated data) since QoS parameter value is calculated on the QoS events.

As per claim 17, Feinberg and Dziekan teaches the computer program product of claim 15 but Feinberg further teaches wherein the single value characterizes the aggregate amount of time that the network elements were at the corresponding quality of network performance for a corresponding network issue during the designated time frame (column 5 lines 40-55), the computer program product further comprising instructions for causing the computer to combine single values, for a common network

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issue, associated with multiple sets of network elements according to network topology into a single higher-level value of network performance(column 5 lines 40-67).

The reference teaches QoS parameter value (single value) produced during one second time period (designated time frame), which are used to compare with QoS acceptable value limits (associated w/ multiple sets of network elements) to come up with QoS acceptance or non-QoS acceptance value for the network performance.

As per claim 18, Feinberg and Dziekan teaches the computer program product of claim 17 but Feinberg further teaches further comprising instructions for causing the computer to combine a plurality of the single higher-level values according to network topology and network issue to determine a single highest value indicative of a total amount of aggregate time of network elements at the corresponding level of network performance associated with the corresponding network issue (column 5 lines 40-67)(column 6 lines 1-15).

The reference teaches QoS events which are used to obtain QoS parameter values which are single higher-level values of the network topology and network issue which corresponding to network performance associated with the corresponding network issue such as dropped packets, network delay, etc.

As per claim 19, Feinberg and Dziekan teaches the computer program product of claim 17 but Feinberg further teaches further comprising instructions for causing the computer to combine a plurality of highest values corresponding to network issues into a single summary value indicative of a total amount of aggregate time of all network

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elements at the corresponding level of network performance, in at least a desired portion of network (column 5 lines 27-67)(column 6 lines 1-15).

The reference teaches QoS events which are used to obtain QoS parameter values which are single higher-level values of the network topology and network issue which corresponding to network performance in desired portion of network because in this case the single value determined is between VoP gateway 106 to gateway 116 (desired portion of network).

As per claim 20, Feinberg and Dziekan teaches the computer program product of claim 15 but Feinberg further teaches wherein the instructions for causing the computer to reduce the accumulated data weights different accumulated data differently to determine the single value. (Column 5 lines 45-60)

The reference teaches that QoS acceptance value represents the acceptable limits (range or threshold) associated with the specified QoS parameter value which states each parameter value is going to be different each time because parameter value is determined with data is accumulated in a specified time interval therefore to reduce the accumulated data weights different accumulated data differently each time.

As per claim 21, Feinberg and Dziekan teaches the computer program product of claim 15 but Feinberg further teaches wherein the instructions for causing the computer to accumulate data causes the computer to gather raw data from an associated broadband network. (Column 5 lines 36-49)

As per claim 22, Feinberg and Dziekan teaches the computer program product of claim 21 but Feinberg further teaches wherein the instructions for causing the computer

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to accumulate data but is silent on teaching causes the computer to analyze but is silent on teaching MIB objects provided by DOCSIS network elements. Dziekan teaches MIB objects provided by DOCSIS network (column 4 lines 31-35) (column 1 lines 51-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement Feinberg's invention in Dziekan's invention to come up MIB objects provided by DOCSIS network. The motivation for doing so would have been to receive reports of the network elements failures.

***Remarks***

3. As a remark, Applicant asserted:

As per claim 1, Feinberg does not address "network parameters". Examiner respectfully disagrees with the applicant because in column 5 lines 15-28, Feinberg states the QoS acceptance value range field contains the acceptable limits and values for monitored QoS parameters (network parameters). The values that fall outside of the acceptable limits and values are indicative of discernible degradation in network performance which means the acceptable limits and values are parameters which give information about the network and how the network should behave over certain period of time because the acceptable limits and values are over certain time period.

Furthermore applicant also asserts that Feinberg does not disclose "displaying metrics over time, or using derived metric to identify and isolate network issues". Examiner asserts that claim 1 does not contain "displaying metrics over time, or using derived metric to identify and isolate network issues" so therefore that issue has not been addressed in the office action.

As per remark on Page 9 second paragraph, Examiner does not understand what the applicant is trying to say. For example applicant states "Applicant submit no quality metrics as shown in block 128 of applicant's figure 7, let alone applicants' claimed cable-modem hour, are disclosed or suggested by Feinberg".

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A). "Quality of service Management for voice over packet networks" by Feinberg et al. U.S. Patent # 6,798,745

B). "Arrangement for discovering the topology of an HFC access network" by Dziekan et al. U.S. Patent # 6,704,288

5.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhairya A Patel whose telephone number is (571) 272-4066. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DAP

  
ZARNI MAUNG  
SUPERVISORY PATENT EXAMINER